

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 09/445, 289 F  
Source: JFW16  
Date Processed by STIC: 11/01/2006

# ***ENTERED***



IFW16

## RAW SEQUENCE LISTING

DATE: 11/01/2006

PATENT APPLICATION: US/09/445,289F

TIME: 11:44:49

Input Set : A:\60261499.app

Output Set: N:\CRF4\11012006\I445289F.raw

3 <110> APPLICANT: MUKAMOLOVA, GALINA V.  
 4 KAPRELYANTS, ARSENY S.  
 5 YOUNG, DANIELLE I.  
 6 KELL, DOUGLAS B.  
 7 YOUNG, MICHAEL  
 9 <120> TITLE OF INVENTION: BACTERIAL PHEROMONES AND USES THEREFOR  
 11 <130> FILE REFERENCE: 49946-60261  
 13 <140> CURRENT APPLICATION NUMBER: 09/445,289F  
 14 <141> CURRENT FILING DATE: 2000-05-11  
 16 <150> PRIOR APPLICATION NUMBER: PCT/GB98/01619  
 17 <151> PRIOR FILING DATE: 1998-06-03  
 19 <150> PRIOR APPLICATION NUMBER: GB 9711389.8  
 20 <151> PRIOR FILING DATE: 1997-06-04  
 22 <150> PRIOR APPLICATION NUMBER: GB 9811221.2  
 23 <151> PRIOR FILING DATE: 1998-05-27  
 25 <160> NUMBER OF SEQ ID NOS: 63  
 27 <170> SOFTWARE: PatentIn Ver. 3.3  
 29 <210> SEQ ID NO: 1  
 30 <211> LENGTH: 362  
 31 <212> TYPE: PRT  
 32 <213> ORGANISM: Mycobacterium tuberculosis  
 34 <400> SEQUENCE: 1  
 35 Met Leu Arg Leu Val Gly Ala Leu Leu Val Leu Ala Phe Ala  
 36 1 5 10 15  
 38 Gly Gly Tyr Ala Val Ala Ala Cys Lys Thr Val Thr Leu Thr Val Asp  
 39 20 25 30  
 41 Gly Thr Ala Met Arg Val Thr Thr Met Lys Ser Arg Val Ile Asp Ile  
 42 35 40 45  
 44 Val Glu Glu Asn Gly Phe Ser Val Asp Asp Arg Asp Asp Leu Tyr Pro  
 45 50 55 60  
 47 Ala Ala Gly Val Gln Val His Asp Ala Asp Thr Ile Val Leu Arg Arg  
 48 65 70 75 80  
 50 Ser Arg Pro Leu Gln Ile Ser Leu Asp Gly His Asp Ala Lys Gln Val  
 51 85 90 95  
 53 Trp Thr Thr Ala Ser Thr Val Asp Glu Ala Leu Ala Gln Leu Ala Met  
 54 100 105 110  
 56 Thr Asp Thr Ala Pro Ala Ala Ala Ser Arg Ala Ser Arg Val Pro Leu  
 57 115 120 125  
 59 Ser Gly Met Ala Leu Pro Val Ser Ala Lys Thr Val Gln Leu Asn  
 60 130 135 140  
 62 Asp Gly Gly Leu Val Arg Thr Val His Leu Pro Ala Pro Asn Val Ala  
 63 145 150 155 160  
 65 Gly Leu Leu Ser Ala Ala Gly Val Pro Leu Leu Gln Ser Asp His Val

(pg-6)

## RAW SEQUENCE LISTING

DATE: 11/01/2006

PATENT APPLICATION: US/09/445,289F

TIME: 11:44:49

Input Set : A:\60261499.app

Output Set: N:\CRF4\11012006\I445289F.raw

```

66          165          170          175
68 Val Pro Ala Ala Thr Ala Pro Ile Val Glu Gly Met Gln Ile Gln Val
69          180          185          190
71 Thr Arg Asn Arg Ile Lys Lys Val Thr Glu Arg Leu Pro Leu Pro Pro
72          195          200          205
74 Asn Ala Arg Arg Val Glu Asp Pro Glu Met Asn Met Ser Arg Glu Val
75          210          215          220
77 Val Glu Asp Pro Gly Val Pro Gly Thr Gln Asp Val Thr Phe Ala Val
78 225          230          235          240
80 Ala Glu Val Asn Gly Val Glu Thr Gly Arg Leu Pro Val Ala Asn Val
81          245          250          255
83 Val Val Thr Pro Ala His Glu Ala Val Val Arg Val Gly Thr Lys Pro
84          260          265          270
86 Gly Thr Glu Val Pro Pro Val Ile Asp Gly Ser Ile Trp Asp Ala Ile
87          275          280          285
89 Ala Gly Cys Glu Ala Gly Gly Asn Trp Ala Ile Asn Thr Gly Asn Gly
90          290          295          300
92 Tyr Tyr Gly Gly Val Gln Phe Asp Gln Gly Thr Trp Glu Ala Asn Gly
93 305          310          315          320
95 Gly Leu Arg Tyr Ala Pro Arg Ala Asp Leu Ala Thr Arg Glu Glu Gln
96          325          330          335
98 Ile Ala Val Ala Glu Val Thr Arg Leu Arg Gln Gly Trp Gly Ala Trp
99          340          345          350
101 Pro Val Cys Ala Ala Arg Ala Gly Ala Arg
102          355          360
105 <210> SEQ ID NO: 2
106 <211> LENGTH: 188
107 <212> TYPE: PRT
108 <213> ORGANISM: Mycobacterium tuberculosis
110 <400> SEQUENCE: 2
111 Met Pro Val Gly Trp Leu Trp Arg Ala Arg Thr Ala Lys Gly Thr Thr
112 1 5 10 15
114 Leu Lys Asn Ala Arg Thr Thr Leu Ile Ala Ala Ala Ile Ala Gly Thr
115 20 25 30
117 Leu Val Thr Thr Ser Pro Ala Gly Ile Ala Asn Ala Asp Asp Ala Gly
118 35 40 45
120 Leu Asp Pro Asn Ala Ala Ala Gly Pro Asp Ala Val Gly Phe Asp Pro
121 50 55 60
123 Asn Leu Pro Pro Ala Pro Asp Ala Ala Pro Val Asp Thr Pro Pro Ala
124 65 70 75 80
126 Pro Glu Asp Ala Gly Phe Asp Pro Asn Leu Pro Pro Pro Leu Ala Pro
127 85 90 95
129 Asp Phe Leu Ser Pro Pro Ala Glu Glu Ala Pro Pro Val Pro Val Ala
130 100 105 110
132 Tyr Ser Val Asn Trp Asp Ala Ile Ala Gln Cys Glu Ser Gly Gly Asn
133 115 120 125
135 Trp Ser Ile Asn Thr Gly Asn Gly Tyr Tyr Gly Gly Leu Arg Phe Thr
136 130 135 140
138 Ala Gly Thr Trp Arg Ala Asn Gly Gly Ser Gly Ser Ala Ala Asn Ala

```

## RAW SEQUENCE LISTING

DATE: 11/01/2006

PATENT APPLICATION: US/09/445,289F

TIME: 11:44:49

Input Set : A:\60261499.app

Output Set : N:\CRF4\11012006\I445289F.raw

```

139 145          150          155          160
141 Ser Arg Glu Glu Gln Ile Arg Val Ala Glu Asn Val Leu Arg Ser Gln
142          165          170          175
144 Gly Ile Arg Ala Trp Pro Val Cys Gly Arg Arg Gly
145          180          185
148 <210> SEQ ID NO: 3
149 <211> LENGTH: 174
150 <212> TYPE: PRT
151 <213> ORGANISM: Mycobacterium leprae
153 <400> SEQUENCE: 3
154 Met Ser Glu Ser Tyr Arg Lys Leu Thr Thr Ser Ser Ile Ile Val Ala
155 1          5          10          15
157 Lys Ile Thr Phe Thr Gly Ala Met Leu Asp Gly Ser Ile Ala Leu Ala
158          20          25          30
160 Gly Gln Ala Ser Pro Ala Thr Asp Ser Glu Trp Asp Gln Val Ala Arg
161          35          40          45
163 Cys Glu Ser Gly Gly Asn Trp Ser Ile Asn Thr Gly Asn Gly Tyr Leu
164          50          55          60
166 Gly Gly Leu Gln Phe Ser Gln Gly Thr Trp Ala Ser His Gly Gly Gly
167 65          70          75          80
169 Glu Tyr Ala Pro Ser Ala Gln Leu Ala Thr Arg Glu Gln Gln Ile Ala
170          85          90          95
172 Val Ala Glu Arg Val Leu Ala Thr Gln Gly Ser Gly Ala Trp Pro Ala
173          100          105          110
175 Cys Gly His Gly Leu Ser Gly Pro Ser Leu Gln Glu Val Leu Pro Ala
176          115          120          125
178 Gly Met Gly Ala Pro Trp Ile Asn Gly Ala Pro Ala Pro Leu Ala Pro
179          130          135          140
181 Pro Pro Pro Ala Glu Pro Ala Pro Pro Gln Pro Pro Ala Asp Asn Phe
182 145          150          155          160
184 Pro Pro Thr Pro Gly Asp Val Pro Ser Pro Leu Ala Arg Pro
185          165          170
188 <210> SEQ ID NO: 4
189 <211> LENGTH: 407
190 <212> TYPE: PRT
191 <213> ORGANISM: Mycobacterium tuberculosis
193 <400> SEQUENCE: 4
194 Met Ser Gly Arg His Arg Lys Pro Thr Thr Ser Asn Val Ser Val Ala
195 1          5          10          15
197 Lys Ile Ala Phe Thr Gly Ala Val Leu Gly Gly Gly Gly Ile Ala Met
198          20          25          30
200 Ala Ala Gln Ala Thr Ala Ala Thr Asp Gly Glu Trp Asp Gln Val Ala
201          35          40          45
203 Arg Cys Glu Ser Gly Gly Asn Trp Ser Ile Asn Thr Gly Asn Gly Tyr
204          50          55          60
206 Leu Gly Gly Leu Gln Phe Thr Gln Ser Thr Trp Ala Ala His Gly Gly
207 65          70          75          80
209 Gly Glu Phe Ala Pro Ser Ala Gln Leu Ala Ser Arg Glu Gln Gln Ile
210          85          90          95

```

## RAW SEQUENCE LISTING

DATE: 11/01/2006

PATENT APPLICATION: US/09/445,289F

TIME: 11:44:49

Input Set : A:\60261499.app

Output Set: N:\CRF4\11012006\I445289F.raw

```

212 Ala Val Gly Glu Arg Val Leu Ala Thr Gln Gly Arg Gly Ala Trp Pro
213          100          105          110
215 Val Cys Gly Arg Gly Leu Ser Asn Ala Thr Pro Arg Glu Val Leu Pro
216          115          120          125
218 Ala Ser Ala Ala Met Asp Ala Pro Leu Asp Ala Ala Val Asn Gly
219          130          135          140
221 Glu Pro Ala Pro Leu Ala Pro Pro Pro Ala Asp Pro Ala Pro Pro Val
222 145          150          155          160
224 Glu Leu Ala Ala Asn Asp Leu Pro Ala Pro Leu Gly Glu Pro Leu Pro
225          165          170          175
227 Ala Ala Pro Ala Asp Pro Ala Pro Pro Ala Asp Leu Ala Pro Pro Ala
228          180          185          190
230 Pro Ala Asp Val Ala Pro Pro Val Glu Leu Ala Val Asn Asp Leu Pro
231          195          200          205
233 Ala Pro Leu Gly Glu Pro Leu Pro Ala Ala Pro Ala Asp Pro Ala Pro
234          210          215          220
236 Pro Ala Asp Leu Ala Pro Pro Ala Pro Ala Asp Leu Ala Pro Pro Ala
237 225          230          235          240
239 Pro Ala Asp Leu Ala Pro Pro Ala Pro Ala Asp Leu Ala Pro Pro Val
240          245          250          255
242 Glu Leu Ala Val Asn Asp Leu Pro Ala Pro Leu Gly Glu Pro Leu Pro
243          260          265          270
245 Ala Ala Pro Ala Glu Leu Ala Pro Pro Ala Asp Leu Ala Pro Ala Ser
246          275          280          285
248 Ala Asp Leu Ala Pro Pro Ala Pro Ala Asp Leu Ala Pro Pro Ala Pro
249          290          295          300
251 Ala Glu Leu Ala Pro Pro Ala Pro Ala Asp Leu Ala Pro Pro Ala Ala
252 305          310          315          320
254 Val Asn Glu Gln Thr Ala Pro Gly Asp Gln Pro Ala Thr Ala Pro Gly
255          325          330          335
257 Gly Pro Val Gly Leu Ala Thr Asp Leu Glu Leu Pro Glu Pro Asp Pro
258          340          345          350
260 Gln Pro Ala Asp Ala Pro Pro Pro Gly Asp Val Thr Glu Ala Pro Ala
261          355          360          365
263 Glu Thr Pro Gln Val Ser Asn Ile Ala Tyr Thr Lys Lys Leu Trp Gln
264          370          375          380
266 Ala Ile Arg Ala Gln Asp Val Cys Gly Asn Asp Ala Leu Asp Ser Leu
267 385          390          395          400
269 Ala Gln Pro Tyr Val Ile Gly
270          405
273 <210> SEQ ID NO: 5
274 <211> LENGTH: 155
275 <212> TYPE: PRT
276 <213> ORGANISM: Mycobacterium leprae
278 <400> SEQUENCE: 5
279 Met Pro Gly Glu Met Leu Asp Val Arg Lys Leu Cys Lys Leu Phe Val
280 1          5          10          15
282 Lys Ser Ala Val Val Ser Gly Ile Val Thr Ala Ser Met Ala Leu Ser
283          20          25          30

```

## RAW SEQUENCE LISTING

DATE: 11/01/2006

PATENT APPLICATION: US/09/445,289F

TIME: 11:44:49

Input Set : A:\60261499.app

Output Set: N:\CRF4\11012006\I445289F.raw

```

285 Thr Ser Thr Gly Met Ala Asn Ala Val Pro Arg Glu Pro Asn Trp Asp
286          35          40          45
288 Ala Val Ala Gln Cys Glu Ser Gly Arg Asn Trp Arg Ala Asn Thr Gly
289          50          55          60
291 Asn Gly Phe Tyr Gly Gly Leu Gln Phe Lys Pro Thr Ile Trp Ala Arg
292 65          70          75          80
294 Tyr Gly Gly Val Gly Asn Pro Ala Gly Ala Ser Arg Glu Gln Gln Ile
295          85          90          95
297 Thr Val Ala Asn Arg Val Leu Ala Asp Gln Gly Leu Asp Ala Trp Pro
298          100          105          110
300 Lys Cys Gly Ala Ala Ser Asp Leu Pro Ile Thr Leu Trp Ser His Pro
301          115          120          125
303 Ala Gln Gly Val Lys Gln Ile Ile Asn Asp Ile Ile Gln Met Gly Asp
304          130          135          140
306 Thr Thr Leu Ala Ala Ile Ala Leu Asn Gly Leu
307 145          150          155
310 <210> SEQ ID NO: 6
311 <211> LENGTH: 176
312 <212> TYPE: PRT
313 <213> ORGANISM: Mycobacterium tuberculosis
315 <400> SEQUENCE: 6
316 Met His Pro Leu Pro Ala Asp His Gly Arg Ser Arg Cys Asn Arg His
317 1          5          10          15
319 Pro Ile Ser Pro Leu Ser Leu Ile Gly Asn Ile Ser Ala Thr Ser Gly
320          20          25          30
322 Asp Met Ser Ser Met Thr Arg Ile Ala Lys Pro Leu Ile Lys Ser Ala
323          35          40          45
325 Met Ala Ala Gly Leu Val Thr Ala Ser Met Ser Leu Ser Thr Ala Val
326          50          55          60
328 Ala His Ala Gly Pro Ser Pro Asn Trp Asp Ala Val Ala Gln Cys Glu
329 65          70          75          80
331 Ser Gly Gly Asn Trp Ala Ala Asn Thr Gly Asn Gly Lys Tyr Gly Gly
332          85          90          95
334 Leu Gln Phe Lys Pro Ala Thr Trp Ala Ala Phe Gly Gly Val Gly Asn
335          100          105          110
337 Pro Ala Ala Ala Ser Arg Glu Gln Gln Ile Ala Val Ala Asn Arg Val
338          115          120          125
340 Leu Ala Glu Gln Gly Leu Asp Ala Trp Pro Thr Cys Gly Ala Ala Ser
341          130          135          140
343 Gly Leu Pro Ile Ala Leu Trp Ser Lys Pro Ala Gln Gly Ile Lys Gln
344 145          150          155          160
346 Ile Ile Asn Glu Ile Ile Trp Ala Gly Ile Gln Ala Ser Ile Pro Arg
347          165          170          175
353 <210> SEQ ID NO: 7
354 <211> LENGTH: 154
355 <212> TYPE: PRT
356 <213> ORGANISM: Mycobacterium tuberculosis
358 <400> SEQUENCE: 7
359 Met Thr Pro Gly Leu Leu Thr Thr Ala Gly Ala Gly Arg Pro Arg Asp

```

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/09/445,289F

DATE: 11/01/2006  
TIME: 11:44:50

Input Set : A:\60261499.app  
Output Set: N:\CRF4\11012006\I445289F.raw

**Please Note:**

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:11; Xaa Pos. 9,4  
Seq#:38; Xaa Pos. 13,18  
Seq#:41; N Pos. 9,15,21  
Seq#:60; Xaa Pos. 14  
Seq#:61; Xaa Pos. 7,8  
Seq#:62; Xaa Pos. 8

**VERIFICATION SUMMARY**

DATE: 11/01/2006

PATENT APPLICATION: US/09/445,289F

TIME: 11:44:50

Input Set : A:\60261499.app

Output Set: N:\CRF4\11012006\I445289F.raw

L:584 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0  
L:1280 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:38 after pos.:0  
M:341 Repeated in SeqNo=38  
L:1338 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41 after pos.:0  
L:1686 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60 after pos.:0  
L:1706 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:61 after pos.:0  
L:1722 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:62 after pos.:0